

METHOD AND APPARATUS FOR MULTILAYER OPTICAL ARTICLES

ABSTRACT OF THE DISCLOSURE

The present invention provides a method and apparatus for a multilayer optical articles. A method comprises grasping a first surface of a first substrate with a first holder, whereby the first surface of the first substrate is held to an inner surface of the first holder. A first surface of a second substrate is grasped with a second holder, whereby the first surface of the second substrate is held to an inner surface of the second holder. The inner surfaces of the first and second holders are arranged to face one another in a selected angular relationship. An adherent is disposed on one or more surfaces selected from a second surface of the first substrate and a second surface of the second substrate. The first adherent is at least partially cured while the first and second holders maintain their grasp and while the inner surfaces of the first and second holders are in a selected distance relationship and the selected angular relationship to form a first multilayer article. The first multilayer article is released from the first holder. The first surface of the third substrate is then grasped with the released first holder, whereby the first surface of the third substrate is held to an inner surface of the first holder. A second adherent is then disposed on one or more surfaces selected from a second surface of the third substrate and the reflective first surface of the first substrate of the formed first multilayer article. The second adherent is then at least partially cured while the first and second holders maintain their grasp and while the inner surfaces of the first and second holders are in the

selected angular relationship to form a second multilayer article. After removal of the first and second holders the at least partially cured first and second adherent maintains the second multilayer article in a posture at which the second multilayer article was held by the first and second holders, wherein the first and second adherent comprise a photopolymer such that the article is capable of storing data in a reflective holographic data storage system.